

WHAT IS CLAIMED IS:

1. An information processing system comprising a program information providing apparatus for providing program information about programs, a portable information terminal apparatus owned by a user, and an information processing apparatus having recording and reproducing functions;

wherein said program information providing apparatus includes:

storing means for storing said program information;
and

providing means for retrieving said program information from said storing means before providing the retrieved program information to said portable information terminal apparatus;

wherein said portable information terminal apparatus includes:

acquiring means for acquiring said program information from said program information providing apparatus;

establishing means for establishing preset information for presetting a desired program to be recorded unattended based on said program information acquired by said acquiring means; and

transmitting means for transmitting to said information processing apparatus said preset information established by said establishing means; and

wherein said information processing apparatus includes:

receiving means for receiving said preset information from said portable information terminal apparatus; and

recording controlling means for controlling the unattended recording of said desired program based on said preset information received by said receiving means.

2. An information processing system according to claim 1, wherein said program information providing apparatus further includes converting means for retrieving said program information from said storing means before converting the retrieved program information into data of a file format compatible with said portable information terminal apparatus; and wherein said providing means provides said data converted by said converting means to said portable information terminal apparatus.

3. An information processing system according to claim 1, wherein said portable information terminal apparatus further includes generating means for

generating a preset signal corresponding to said preset information established by said establishing means; and wherein said transmitting means transmits to said information processing apparatus infrared rays modulated to represent said preset signal generated by said generating means.

4. An information processing system according to claim 1, wherein said portable information terminal apparatus further includes generating means for generating a preset signal corresponding to said preset information established by said establishing means; and wherein said transmitting means transmits to said information processing apparatus radio waves modulated to represent said preset signal generated by said generating means.

5. An information processing system comprising a program information providing apparatus for providing program information about programs, a portable information terminal apparatus owned by a user, and an information processing apparatus having recording and reproducing functions;

wherein said program information providing apparatus includes:

storing means for storing said program information

and advertisement information; and

providing means for retrieving said program information and said advertisement information from said storing means before providing the retrieved information to said portable information terminal apparatus;

wherein said portable information terminal apparatus includes:

acquiring means for acquiring said program information and said advertisement information sent from said program information providing apparatus;

establishing means for establishing preset information for presetting a desired program to be recorded unattended based on said program information acquired by said acquiring means; and

transmitting means for transmitting to said information processing apparatus said preset information established by said establishing means; and

wherein said information processing apparatus includes:

receiving means for receiving said preset information from said portable information terminal apparatus; and

recording controlling means for controlling the unattended recording of said desired program based on

said preset information received by said receiving means.

6. An information processing system according to claim 5, wherein said program information providing apparatus further includes converting means for retrieving said program information and said advertisement information from said storing means before converting the retrieved information into data of a file format compatible with said portable information terminal apparatus; and wherein said providing means provides said data converted by said converting means to said portable information terminal apparatus.

7. An information processing system comprising a portable information terminal apparatus owned by a user and an information processing apparatus which has recording and reproducing functions, which stores program information about programs and which is owned by said user;

wherein said portable information terminal apparatus includes:

acquiring means for acquiring said program information from said information processing apparatus;

establishing means for establishing preset information for presetting a desired program to be recorded unattended based on said program information

acquired by said acquiring means; and

transmitting means for transmitting to said information processing apparatus said preset information established by said establishing means; and

wherein said information processing apparatus includes:

receiving means for receiving said preset information sent from said portable information terminal apparatus; and

recording controlling means for controlling the unattended recording of said desired program based on said preset information received by said receiving means.

8. An information processing system according to claim 7, wherein said acquiring means further acquires said program information sent from another portable information terminal apparatus.

9. A portable information terminal apparatus connected to a recording/reproducing apparatus, said portable information terminal apparatus comprising:

acquiring means for acquiring program information about programs;

displaying means for displaying said program information acquired by said acquiring means;

establishing means for establishing preset

information for presetting a desired program to be recorded unattended based on an operational input made by a user referring to said program information displayed by said displaying means; and

transmitting means for transmitting to said recording/reproducing apparatus said preset information established by said establishing means.

10. A portable information terminal apparatus according to claim 9, further comprising judging means; wherein said program information includes detailed program information associated with advertisement information;

wherein said judging means judges whether the program information acquired by said acquiring means is associated with said advertisement information; and

wherein, if said judging means judges that said program information is not associated with said advertisement information, then said displaying means does not display said program information.

11. A portable information terminal apparatus according to claim 10, wherein said detailed program information includes either an indicator pointing to a location where further information associated with said program information exists, or information about a

reference to the associated information.

12. A portable information terminal apparatus according to claim 10, wherein said advertisement information includes detailed advertisement information associated with said advertisement information; and wherein said detailed advertisement information includes either an indicator pointing to a location where further information associated with said advertisement information exists, or information about a reference to the associated information.

13. A portable information terminal apparatus according to claim 9, further comprising judging means and updating means;

wherein said program information is associated with advertisement information;

wherein said advertisement information includes time limit information denoting a time limit;

wherein said judging means judges whether said time limit denoted by said time limit information in said advertisement information has expired; and

wherein said updating means updates said program information based on the judgment by said judging means.

14. A portable information terminal apparatus according to claim 9, further comprising:

storing means for storing said preset information established by said establishing means; and

controlling means for controlling exchanges of information with said recording/reproducing apparatus;

wherein said transmitting means transmits said preset information from said storing means to said recording/reproducing apparatus under control of said controlling means.

15. A portable information terminal apparatus according to claim 9, further comprising registering means for registering detailed information for designating said program information to be acquired by said acquiring means;

wherein said displaying means further displays said detailed information registered by said registering means.

16. A portable information terminal apparatus according to claim 15, wherein said detailed information includes any one of a region, a channel, and a user ID.

17. A portable information terminal apparatus according to claim 15, wherein said registering means registers a plurality of items of said detailed information, and wherein said acquiring means acquires said program information corresponding to said plurality of items of said detailed information registered by said

registering means.

18. A portable information terminal apparatus according to claim 15, wherein, if said program information corresponding to said detailed information is acquired by said acquiring means, then said displaying means further displays a predetermined mark pointing to said detailed information.

19. A portable information terminal apparatus according to claim 15, further comprising:

controlling means for controlling exchanges of information with said recording/reproducing apparatus; and

receiving means which, under control of said controlling means, receives from said recording/reproducing apparatus a message regarding preset status of said desired program as part of said preset information transmitted from said transmitting means;

wherein said displaying means further displays a predetermined mark pointing to said detailed information based on said message received by said receiving means.

20. A portable information terminal apparatus according to claim 9, further comprising receiving means for receiving image data derived from conversion of said

desired program, recorded by said recording/reproducing apparatus, into a predetermined file format;

wherein said displaying means further displays said image data received by said receiving means.

21. A portable information terminal apparatus according to claim 9, further comprising:

managing means for managing a schedule list in which to register what is scheduled by said user;

judging means for judging whether or not to write said preset information established by said establishing means to said schedule list managed by said managing means; and

writing means which, based on the judgment by said judging means, writes said preset information established by said establishing means to said schedule list managed by said managing means;

wherein said displaying means further displays said schedule list including said preset information written by said writing means.

22. A portable information terminal apparatus according to claim 9, wherein said transmitting means transmits infrared rays modulated to represent a preset signal corresponding to said preset information.

23. A portable information terminal apparatus

according to claim 9, wherein said transmitting means transmits radio waves modulated to represent a preset signal corresponding to said preset information.

24. A portable information terminal apparatus according to claim 9, wherein said transmitting means transmits said preset information over a network.

25. A portable information terminal apparatus according to claim 9, further comprising updating means for updating said preset information established by said establishing means.

26. An information processing method for use with a portable information terminal apparatus connected to a recording/reproducing apparatus, said information processing method comprising the steps of:

acquiring program information about programs;

controlling display of said program information acquired in said acquiring step;

establishing preset information for presetting a desired program to be recorded unattended based on an operational input made by a user referring to said program information displayed under control of said controlling step; and

transmitting to said recording/reproducing apparatus said preset information established in said

establishing step.

27. A computer-program storage medium which stores a computer-program, which is readable by a computer, for controlling a portable information terminal apparatus connected to a recording/reproducing apparatus, the computer-program comprising the steps of:

acquiring program information about programs;

controlling display of said program information acquired in said acquiring step;

establishing preset information for presetting a desired program to be recorded unattended based on an operational input made by a user referring to said program information displayed under control of said controlling step; and

transmitting to said recording/reproducing apparatus said preset information established in said establishing step.

28. A computer-program for use with a computer connected to a recording/reproducing apparatus, said computer-program comprising the steps of causing said computer to:

acquire program information about programs;

control display of said program information acquired in said acquiring step;

establish preset information for presetting a desired program to be recorded unattended based on an operational input made by a user referring to said program information displayed under control of said controlling step; and

transmit to said recording/reproducing apparatus said preset information established in said establishing step.

29. A program information providing apparatus for providing program information about programs to an information processing apparatus over a network, said program information providing apparatus comprising:

storing means for storing said program information and advertisement information;

converting means which, based on a request from said information processing apparatus, retrieves said program information and said advertisement information from said storing means before converting the retrieved information into data of a predetermined format compatible with said information processing apparatus; and

providing means for providing said data converted by said converting means to said information processing apparatus over said network.

30. A program information providing apparatus according to claim 29, further comprising charging means for calculating a fee for inserting said advertisement information and charging said fee on a sponsor of said advertisement information.

31. A program information providing apparatus according to claim 29, wherein said storing means further stores user information about a user who owns said information processing apparatus.

32. A program information providing apparatus according to claim 29, wherein said program information includes detailed program information associated with said program information, and wherein said advertisement information includes detailed advertisement information associated with said advertisement information.

33. A program information providing apparatus according to claim 32, wherein said detailed program information includes either an indicator pointing to a location where further information associated with said program information exists, or information about a reference to the associated information.

34. A program information providing apparatus according to claim 32, wherein said detailed advertisement information includes either an indicator

pointing to a location where further information associated with said advertisement information exists, or information about a reference to the associated information.

35. A program information providing apparatus according to claim 29, wherein said advertisement information includes time limit information denoting a time limit.

36. A program information providing method for use with a program information providing apparatus for providing program information about programs to an information processing apparatus over a network, said program information providing method comprising the steps of:

controlling storage of said program information and advertisement information;

retrieving, based on a request from said information processing apparatus, said program information and said advertisement information from storage under control of said storage controlling step before converting the retrieved information into data of a predetermined format compatible with said information processing apparatus; and

providing said data converted in said converting

step to said information processing apparatus over said network.

37. A computer-program storage medium which stores a computer-program, which is readable by a computer, for controlling a program information providing apparatus which provides program information about programs to an information processing apparatus over a network, the computer-program comprising the steps of:

controlling storage of said program information and advertisement information;

retrieving, based on a request from said information processing apparatus, said program information and said advertisement information from storage under control of said storage controlling step before converting the retrieved information into data of a predetermined format compatible with said information processing apparatus; and

providing said data converted in said converting step to said information processing apparatus over said network.

38. A computer-program for use with a computer which provides program information about programs to an information processing apparatus over a network, said computer-program comprising the steps of causing said

computer to:

control storage of said program information and advertisement information;

retrieve, based on a request from said information processing apparatus, said program information and said advertisement information from storage under control of said storage controlling step before converting the retrieved information into data of a predetermined format compatible with said information processing apparatus; and

provide said data converted in said converting step to said information processing apparatus over said network.

39. A recording/reproducing apparatus connected to a portable information terminal apparatus, said recording/reproducing apparatus comprising:

receiving means for receiving from said portable information terminal apparatus preset information for presetting a desired program to be recorded unattended; and

recording controlling means for controlling the unattended recording of said desired program based on said preset information received by said receiving means.

40. A recording/reproducing apparatus according to

claim 39, further comprising:

converting means for converting said desired program recorded by said recording controlling means into image data of a predetermined file format in response to a request from said portable information terminal apparatus; and

transmitting means for transmitting said image data converted by said converting means to said portable information terminal apparatus.

41. A recording/reproducing apparatus according to claim 39, further comprising transmitting means for transmitting to said portable information terminal apparatus a message regarding preset status of said desired program as part of said preset information received by said receiving means.

42. A recording/reproducing method for use with a recording/reproducing apparatus connected to a portable information terminal apparatus, said recording/reproducing method comprising the steps of:

receiving from said portable information terminal apparatus preset information for presetting a desired program to be recorded unattended; and

controlling the unattended recording of said desired program based on said preset information received

in said receiving step.

43. A computer-program storage medium which stores a computer-program, which is readable by a computer, for controlling a recording/reproducing apparatus connected to a portable information terminal apparatus, the computer-program comprising the steps of:

receiving from said portable information terminal apparatus preset information for presetting a desired program to be recorded unattended; and

controlling the unattended recording of said desired program based on said preset information received in said receiving step.

44. A computer-program for use with a computer connected to a portable information terminal apparatus, said computer-program comprising the steps of causing said computer to:

receive from said portable information terminal apparatus preset information for presetting a desired program to be recorded unattended; and

control the unattended recording of said desired program based on said preset information received in said receiving step.